



U.S. Department  
of Transportation

**Federal Railroad  
Administration**

# Memorandum

Date: June 15, 1998

Reply to Att. of: MP&E 98-24

Subject: Stub Sill Failure on Tank Cars

From: Edward R. English  
Director, Office of Safety Assurance and Compliance

To: Regional Administrators, Deputy Regional Administrators,  
Motive Power & Equipment Specialists and Inspectors

On March 13, 1990, a UTLX tank car containing vinyl chloride sustained a failed stub sill assembly on the "B" end of the car. This resulted in the train parting and going into emergency. Fortunately, there was no leakage of the commodity. Similar incidents have since occurred.

Investigation revealed that the head block, which normally is attached by welding to the tank head and stub sill was not attached to the stub sill and was actually "floating" (only attached to the tank head). The top of the stub sill assembly showed signs of the head block rubbing. The stub sill failed at the rear of the draft gear, completely separated, including the end cross over platform. The broken stub sill remained attached to the adjacent car by the top and bottom shelf coupler, which prevented it from falling to the track structure.

ACF Industries had similar problems with their fabricated stub sill dual diameter tank cars in 1985. ACF's cars built between 1962 and 1969 have exhibited minor crack indications in the weld connecting the cradle pad to the tank since at least 1970. Those cars with verified cracks, revealed that the cracks always initiated in the weld attachment to the top cover plate and did not propagate through the top cover plate to the sill.

Due to the described experiences, a close inspection is to be made to **all tank cars with stub sill's.** The insulation should be carefully examined at the stub sill securement for any sign of stress.

If the inspection of any tank car equipped with stub sill's, reveals any defect of the stub sill, the inspector is to notify the regional MP&E Specialist, providing the following information:

Date:\_\_\_\_\_ Railroad\_\_\_\_\_ Shipper\_\_\_\_\_ Location \_\_\_\_\_  
Initial & Car number\_\_\_\_\_ Built date\_\_\_\_\_ DOT Spec.\_\_\_\_\_  
Waybill No. and Date, Commodity\_\_\_\_\_ Routing\_\_\_\_\_  
Description of defect\_\_\_\_\_  
Action taken by the railroad\_\_\_\_\_  
Any other information\_\_\_\_\_

The MP&E Specialist should forward this information to the MP&E Staff Director.

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